US 20050198904A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2005/0198904 A1

Browne et al. (43) Pub. Date: Sep. 15, 2005

(54) ACTIVE SEAL ASSEMBLIES FOR MOVABLE WINDOWS

(76) Inventors: **Alan L. Browne**, Grosse Pointe, MI (US); **Nancy L. Johnson**, Northville, MI (US); **William Barvosa-Carter**, Ventura, CA (US); **Geoffrey P. Mc Knight**, Los Angeles, CA (US); **Andrew C. Keefe**, Santa Monica, CA (US); **Christopher P. Henry**, Newbury Park, CA (US); **Guillermo A. Herrera**, Winnetka, CA (US)

Correspondence Address:
KATHRYN A. MARRA
General Motors Corporation
Legal Staff, Mail Code 482-C23-B21
P.O. Box 300
Detroit, MI 48265-3000 (US)

(21) Appl. No.: **11/063,652**

(22) Filed: **Feb. 23, 2005**

Related U.S. Application Data

(60) Provisional application No. 60/552,781, filed on Mar. 12, 2004.

Publication Classification

(51) **Int. Cl.**[7] **E05F 11/38**

(52) **U.S. Cl.** **49/374**

(57) **ABSTRACT**

Active seal assemblies employing active materials that can be controlled and remotely changed to alter the seal effectiveness, wherein the active seal assemblies actively change modulus properties such as stiffness, shape orientation, and the like. In this manner, in seal applications such as a vehicle window application, the seal force can be selectively reduced during movement of the window and increased when the window is stationary, thereby selectively changing seal effectiveness. Active materials refers to several different classes of materials all of which exhibit a change in at least one attribute such as dimension, shape, and/or flexural modulus when subjected to at least one of many different types of applied activation signals, examples of such signals being thermal, electrical, magnetic, stress, and the like.